

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003812**Date Inspected:** 29-Aug-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Liu Hua Jie and Huang Wen Pang			CWI Present:	Yes	No
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	OBG and SAS Tower Fabrication	

Summary of Items Observed:

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

Bay 4: Tower Diaphragm

This QA observed two ZPMC welders SMAW(2G) PJP welding root pass on 40mm web plate to tower double diaphragm(bottom) NSD1-SA27B/B weld joint 12. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode. In this welding, the preheat of >180 degree C on both plates of 40mm web plate and 75mm diaphragm plate was insufficient. This QA called the attention of ZPMC/CWI Yu Dong Ping and ABF/QA Kong Xian Hui to verify the preheat and they both agreed the preheat was insufficient. The CWI and ABF/QA have stopped the welders and asked the welders to put back the ceramic thermal blankets to heat up the plates. Due to this infraction, an incident report was issued against ZPMC.

The QA Inspector randomly observed ZPMC Welders ID #068919, ID #066268, ID #037779 and ID #066418 utilizing the Shielded Metal Arc Welding (SMAW) Process in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-3313-Tc-P5 to weld tower double diaphragm PJP root pass on 40mm thick web plate to 60mm thick stiffener plate tee joint NSD1-SA335 weld joints 11, 12, 13 and 14. The QA Inspector randomly observed ZPMC CWI Zhashi monitoring weld parameters.

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Heat straightening was observed on 75mm plate marked SA104 due to mill induced distortion. Natural gas was used with thermal heat input of less than 600 degree C following procedure HSR1(T)-3478.

Bay 7: OBG - Floor Beam Sub Assembly

The QA Inspector randomly observed ZPMC welder Duan Xin Zhi ID Number 050502, utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the CJP fill pass on plate splice butt joint of floor beam sub-assembly FB011-021-026. QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring weld parameters.

This QA randomly observed ZPMC welder Chen Chuanzong ID Number 044824, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 1G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2231-Tc-U4b-F to weld CJP cover pass on flange splice butt joint of floor beam FB063-001-016. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring preheat and weld parameters.

The QA Inspector randomly observed ZPMC welder Hong Shuili ID Number 044815, utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 3G (Vertical Groove) Position with ZPMC WPS WPS-B-T-2233-Tc-U4b-F, to weld fill pass on skewed connection plate (of 300mm x 300mm diagonal brace) to floor beam bottom flange Sub-Assembly SSD15B-PP043-131. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring weld parameters.

Bay 8: Tower Diaphragm

This QA observed two ZPMC welders ID #068924 and ID #066456 SMAW(2G) PJP welding fill pass on 60mm stiffener plate to tower double diaphragm(bottom) SSD1-SA311 weld joint 11. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode. The QA Inspector randomly observed ZPMC CWI Liu Hua Jie monitoring weld parameters.

This QA observed three ZPMC welders, ID #048714, ID #045240 and ID #048433 utilizing the FCAW Process in the 2F (Horizontal) Position with a 1.4mm diameter electrode, filler metal brand K-71TSR, semi automatic with ZPMC WPS WPS-B-T-4132 to weld fillet cover pass on fillet weld connection between tower diaphragm plate to diaphragm flange NSD1-SA169A/B-8. The QA Inspector randomly observed ZPMC CWI Liu Hua Jie monitoring weld parameters.

SMAW(2F) tack welding/fit-up of fillet weld connection on tower diaphragm plate to diaphragm flange WSD1-SA370-2 using THJ506Fe-1 was observed following procedure WPS-B-T-4112-4. Maximum gap measured while tacking was 7.5mm.

Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

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Inspected By: Lizardo, Joselito

Quality Assurance Inspector

Reviewed By: Cuellar, Robert

QA Reviewer